DOCUMENT RESUME

ED 448 536 EA 030 810

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TITLE How Schools Use Data To Help Students Learn.

INSTITUTION North Central Regional Educational Lab., Oak Brook, IL.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE 2000-00-00
NOTE 21p.; For volume 2 number 1, see EA 030 809. Produced in cooperation with A+ Media, Inc. North Central Regional Educational Laboratory, 1900 Sandy Road, Suite 300, Oak Brook, IL 60523-1480.
CONTRACT RJ96006301; R168R50003; R302A50007
AVAILABLE FROM For full text: http://www.ncrel.org/info/nlp/.
PUB TYPE Collected Works - Serials (022)
JOURNAL CIT NCREL's Learning Point; v2 n2 Sum 2000
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Academic Standards; Accountability; *Data Analysis; *Decision Making; *Educational Change; Elementary Secondary Education; Public Schools; *Student Improvement

ABSTRACT

This issue focuses on decision making. The term "D[cubed]M" used throughout the issue means data-driven decision making. D[cubed]M is not merely crunching numbers or translating statistics; it is about creating a picture to see where you have been and to determine where you want to go. Provided is a special D[cubed]M checklist to figure out how data can be used in schools. The following articles are included: "D[cubed]M: Helping Schools Distill Data" (Ann Kinder) the many ways schools can leverage the benefits of D[cubed]M; "Teachers and Students as Action Researchers: Using Data Daily" (Cinder Cooper with Allison Cromey) an innovative pilot program that helps students track their daily progress in math and helps teachers develop more effective ways to support those needing extra help; and "Measuring Student Success" by Lenaya Raack, (an NCREL associate explains the critical role of continuous feedback in assessing student performance. (DFR)

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NCREL's
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North Central Regional Educational Laboratory

Summer 2000

EA

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MEASUREMENTS

How Schools Use Data to Help Students Learn

STANDARDS

TRENDS

RESULTS

ASSESSMENTS

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NCREL's LEARNING POINT

Summer 2000

Volume 2, No. 2

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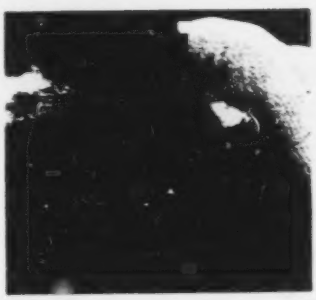

Cover: Enrique Cruz Jr.

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Data-driven decision making is all around us. In this insightful article, Arie van der Ploeg, a data analyst at NCREL, shares his thoughts on the many ways schools can leverage the benefits of D'M.

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A Special Message from Gina Burkhardt, Executive Director

Each day we are called upon to make decisions ranging from the simple to the complex, and we use information—data—in making them. My eight-year-old daughter and I watch *The Weather Channel* each morning before we decide what to wear. Physicians study test results to diagnose and treat their patients. And educators and students use data to improve teaching and learning.

This issue of *NCREL's Learning Point* focuses on decision making. You will see the term D'M throughout the magazine—it simply means data-driven decision making. D'M isn't merely crunching numbers or translating statistics; it's about creating a picture to see where you've been and determine where you want to go.

Whether you're a teacher, principal, or district leader, you can benefit from the insightful articles presented in this issue. Discover methods for collecting and storing data, learn how one rural school is making progress by using data, and understand how to use data to improve your school or classroom.

On the inside back cover of this issue is a special D'M checklist. Use this tool to figure out how you can use data in your school. Soon you'll be well on your way to successful school improvement and higher student achievement. Now if the weatherman could just get it right....

This work was produced in whole or in part with funds from the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under contract number RJ96006301 and grant numbers R168R50003 and R302A50007. The content does not necessarily reflect the position or policy of OERI or the Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the federal government.

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cover story

D^3M: Helping Dist

By Ann Kinder

For most people, the word *data* triggers the "off-switch" in the brain. Why should everything be researched, analyzed, and scrutinized to death? Who understands all that statistical jargon anyway? *Normal curve:* a baseball term, right? *Scatter plots:* the stuff of mystery novels? Does anyone pay attention to data?

Whether we realize it or not, we use data every day to help us make decisions. Weather reports help us decide what to wear, stock market reports point out promising stocks for investment, medical journals outline healthy eating guidelines, etc. Technically speaking, the process of making decisions based on data is referred to as **data-driven decision making**, or D^3M.

Arie van der Ploeg, senior program associate and data analyst at NCREL, understands that data-driven decision making can be a daunting concept, but he simplifies it by thinking of data in terms of driving a car: "The instruments on the dashboard help guide the decisions we make. The speedometer monitors our speed so we can avoid a speeding ticket. The fuel gauge indicates when we're low on gas. And the turn signal tells those around us what direction we're going," explains van der Ploeg.

It's clear to see how data drive decisions in our daily lives, but how is the concept of D^3M applied to schools? D^3M is hardly a new concept in education. Data in all shapes and sizes are used by superintendents, principals, and teachers every day—attendance records, number of free lunches, student mobility, gender equity, and state test scores. Ideally, D^3M should function as a decision-support system. The feedback generated by data can help schools determine whether or not they're on the right track to improved student achievement and how fast or slow they're progressing.

"The concept of data-driven decision making has come to schools," remarks van der Ploeg. "Now we're concentrating on how we put the concept to use. Most educators think, in some sense, about what happens each day and how to utilize that information to improve their teaching. Like other professionals, teachers keep churning the data."

More and more, educators are learning to track data. This is largely due to school reform efforts, which in most states mandate data tracking. In addition, the growth of state

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Schools
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accountability systems over the last decade has made schools increasingly aware of their standings compared to other schools. Even with state accountability systems in place, data-driven decision making can still be a difficult concept to grasp. Nevertheless, van der Ploeg points out that teachers don't have to be statisticians to use the process.

Getting Started

Part of van der Ploeg's work at NCREL involves helping schools and teachers find good methods for measuring data based on local standards and curriculum. Instead of providing them with tools, he prefers helping them determine what resources they have readily available. These tools and resources might be computer software, tables and graphs, or something as simple as a piece of paper and a pencil.

"My favorite tool is a piece of graph paper with a ten-inch grid," says van der Ploeg. "We've got the Web and we've got electronic books, but what do we still carry around with us? A newspaper, a magazine, a paperback book. Paper is still an amazing utility. The simplest data tracking tools are a piece of graph paper and a pencil."

There are many questions for schools and teachers to consider when implementing a data-driven decision-making process. Van der Ploeg recommends answering the following questions about goals, comparisons, and learning as a means of getting started. He also notes that the questions should remain the same whether the focus is on school reform or individual teacher improvement.

Goals

Where do we want to go?

Comparisons

- Where are we now?
- Where were we before?
- Where are others like us?
- Are there others like us who are ahead of us?

Learning

- What have we learned from our own experience?
- If others are ahead of us, what are they doing?
- What does the research say?
- What do "best practices" suggest?

The decision to make changes in schools and classrooms should never be taken lightly. Once the decision is made to move toward change, van der Ploeg recommends taking small steps. He provides the following illustration to demonstrate how one teacher started tracking data in his classroom.

A third-grade teacher had a strong sense of what the local curriculum says students should be able to do after they leave his charge. He also felt he had a good sense of who his students were and what they could do. But just to make sure, he decided to make a list of five to ten items that his students should know with respect to local standards.

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He wrote each item on a separate piece of paper and attached them to a clipboard. During the course of his day, he kept track of how often he taught to those standards.

After a couple of weeks, he accumulated a lot of tally marks, which suggests he's teaching in the direction of the standards. If he had only made a few tally marks, he would need to rethink what he's spending his time on. If he had more tally marks under one item than under another, he should focus more time on the items being neglected and less time on the item he has covered a great deal.

Van der Ploeg says the purpose of this exercise is not to overwhelm educators, but to help them find useful indicators that let them know whether the material they are teaching is important and reflects local standards. When teachers know what's important to them and whether or not they're teaching it, the next indicator is what the students know.

Using the same checklist system, teachers can start making tally marks at the student level. Teachers should be specific in terms of the things students do, say, and think out loud about. If the standards teachers are trying to achieve are reflected in students' behavior, then teachers are really getting somewhere. Van der Ploeg notes that waiting until test day to measure these standards is too late. "Students' quiz scores simply tell you what they've gotten done. What you need is evidence they understand the material prior to the quiz. That way teachers can modify their methods for students who aren't comprehending the material."

Just as van der Ploeg advocates starting with small steps, he also emphasizes that *consistency is key* when implementing a data-driven decision-making process. Van der Ploeg suggests continuing to follow through with the data tracking and to keep asking the same questions over and over again until enough information is collected to build a picture.

Building a Picture

"Many of us have trouble seeing meaningful differences when we put data in a table," explains van der Ploeg. "But if we plug the same data into a graph, we start to see a picture. What we do with numbers is build a story. We've all seen coaches at work and a very important tool they have is a stopwatch. They use it to collect data and they use that data to build a record. The records that stopwatches generate help athletes know what standard they're striving for."

Now envision teachers as coaches and students as athletes. Each teacher determines what data-collecting tools work best in his or

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her classroom. And to help students achieve and exceed local standards, teachers can use data to build clear pictures that outline in what direction they're going, markers along the way, and the amount of time needed to reach their goals.

Once teachers have collected some data, they should revisit their initial questions. Now is the time to refine that data and start building on it. Make a list of relevant data to collect and decide who's responsible for assembling it. Then find a way to store it, whether it's on paper or entered into a computer. And here's the important part: **Distribute the data, share it, talk about it.**

Sharing the Wealth

Data don't do anyone much good if the information just sits on a shelf in a storage room. And yearly or bi-yearly reports aren't much better. Van der Ploeg urges schools to keep the data in front of their staff all the time. How else can they determine what's changing from day-to-day, week-to-week, and month-to-month? This is where they will see whether or not students are growing academically and whether or not teachers are improving.

"You can't put the data away, let it accumulate, and then write a report," says van der Ploeg. "You have to keep it in front of your faculty all the time. The sharing is the important part. If people don't see it, they're not getting what they need out of it. It's a decision-support system; it's not an evaluation. We need to get over that mindset—information is social."

"It boils down to this: Change needs to be systemic, and relevant data need to be discussed regularly," states van der Ploeg. "When the data start to build a picture, educators will see the trends. This is how schools will determine whether their methods are successful." ●

Resources

- *Working Together to Improve Learning: Data Teams in Improving Schools* by Karen Lewis Denis, Bradley, Kristi Rossi, and Peter Tenelshaun is designed to help educators use data in new and productive ways. Rather than simply reporting data, you will learn how to use available data to improve teaching and learning.

- *Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve Teaching and Learning* by Victoria L. Bernhardt presents practical tools to help educators make better decisions based on data. Targeted at nonstatisticians, this book shows you how to gather, analyze, and use information to improve all aspects of your school.

- **http://ilsi.isbe.state.il.us**
  The Illinois School Improvement Web site helps you answer the questions "How are we doing?" "Where do we need to be?" "How will we get there?" "Where can we find the resources?" This site will help you create goals for your school and also help you choose the tools you'll need to meet these goals. Also, visit the site for proven resources, contacts, and model schools.

- **http://www.osn.state.oh.us/icip/**
  Create goals, strategies, performance measures and more on Ohio's interactive Continuous Improvement Plan Web site. Establish your priority areas by analyzing factors that contribute to performance. Also, discover a host of data on Ohio's Department of Education Report Card Home Page http://www.ode.state.oh.us/reportcard. With the interactive Report Card, Web visitors have the ability to produce custom reports on topics such as student per teacher ratio; student and teacher attendance rates; and proficiency test results by school district, building, subject, and grade.

- **http://mdk12.org/data/index.html**
  For a comprehensive look at data analysis, visit the School Improvement in Maryland Home Page. Examine data on instructional programs, individual students, and teachers. Learn how to use graphing tools such as bar graphs and pie graphs. Gain valuable insights on data interpretation and problem clarification.

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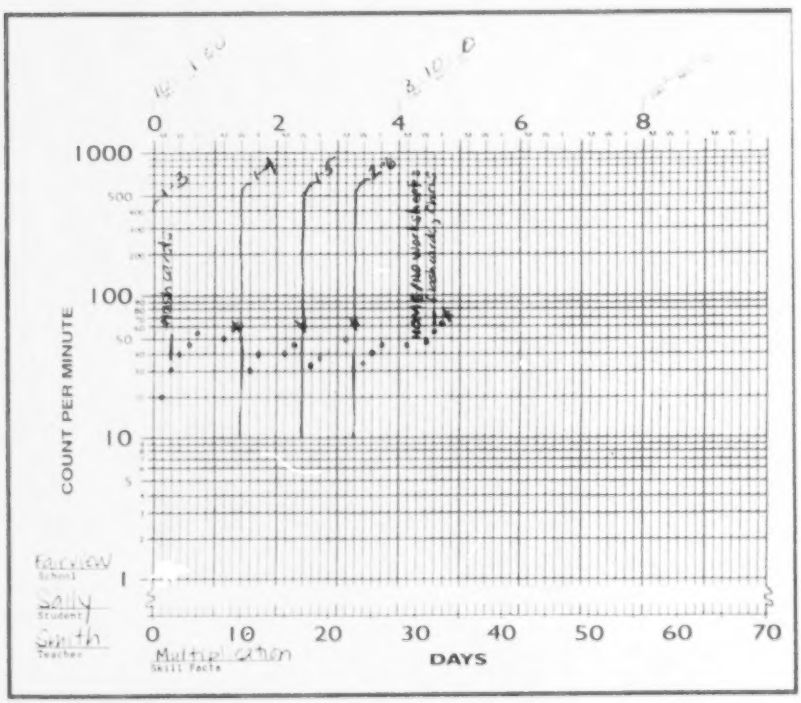
feature

teachers and students as action researchers:

By Cinder Cooper with Allison Cromey

Imagine this: Eight-year old Sally bounces to the front of the room with a chart transparency in hand. She flicks on the projector, goes to the screen, and using a yard stick points to the lines representing the week of October 8, 2000. "I met all the learning goals that Ms. Smith and I set for me. As you can see by this learning picture, I accelerated and increased the number of problems I did right by 15 this week. On Wednesday the 11th, I decelerated [dipped]. See my note about missing class the day before. I talked to Ms. Smith and told her that I went home early and forgot to take home my worksheets. She worked with me during music. Then I took some flash cards home and I practiced with my older brother. The next day I worked with Chris (who's working on the same stuff that I am) to do a new timing. By Friday, I was back on track and met my target. Now I'm ready to move on to the next number family."



This is a sample of a chart used by Creve Coeur students to track their daily progress in math.

In the Creve Coeur School District in central Illinois, teachers are piloting a data-driven process called precision teaching, which calls for students to be active participants in their learning. They make goals and strive to reach them, and if they aren't learning, they know that their teacher and even other students will intervene and give them extra resources. On a daily basis, students practice and record their performances on academic

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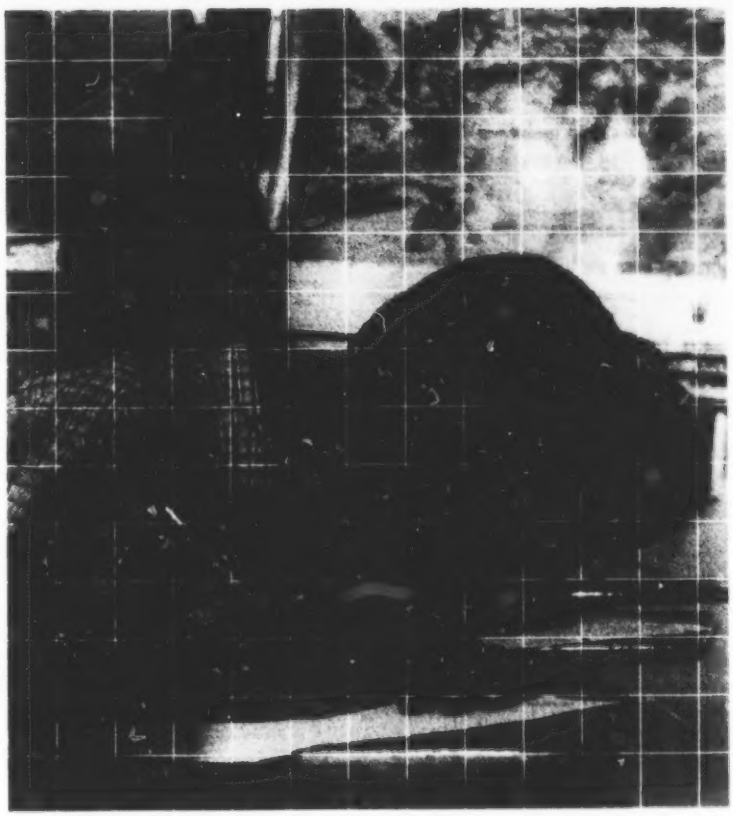
using data daily

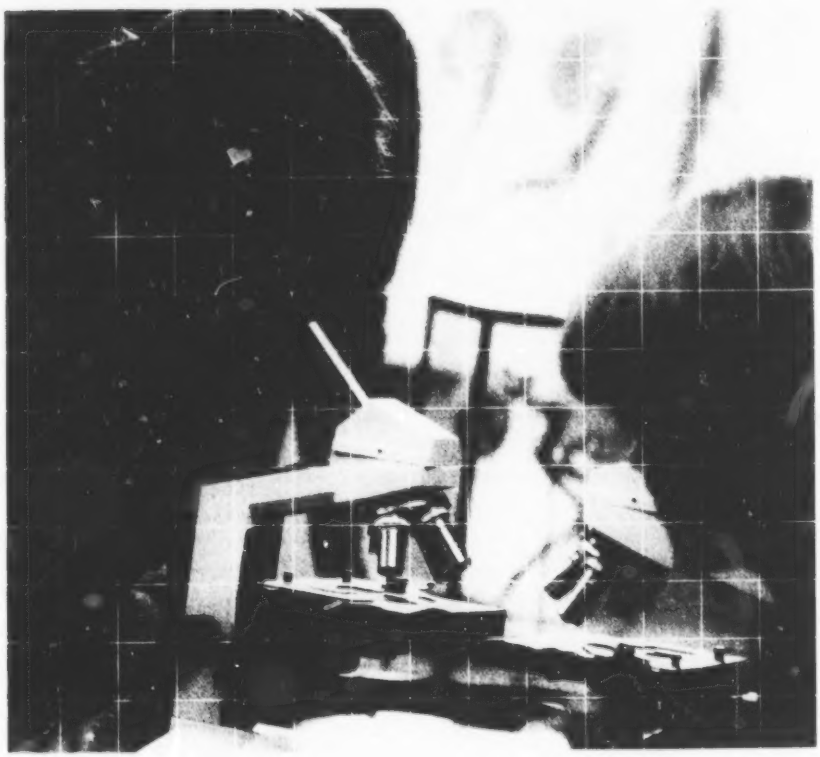


tasks, and teachers work with them to adjust the curriculum or classroom instruction based on how well they are improving and learning. To complement this practice, Creve Coeur teachers used a basic-skills curriculum specifically designed to progress in steps based upon individual student performance.

Jami Vance, third-grade teacher at Homewood Heights School, states, "As a teacher I'm getting more immediate feedback. It would take me a grading period to know if someone went up or down. [Now] kids can say 'I accelerated today' or 'I had a bad day today; I've got to get my score up.' On a daily basis the kids are making judgments about their learning."

But how did Creve Coeur come to use data in this way? According to Superintendent Dean Peyton, data from standardized test scores indicated that students were not achieving in some curricular areas, particularly in math. Teachers and administrators in the Creve Coeur district knew that something had to be done or their kids would always be struggling to keep up. Peyton admits, "I wasn't looking for data-driven decision making [D'M]. I was looking for ways to improve our school and improve the learning of our kids. Along those lines, D'M just made sense in the overall perspective." Creve Coeur began a partnership with NCREL and the Illinois Institute of Technology to rethink how they were teaching math and how they could use data to effect positive change.

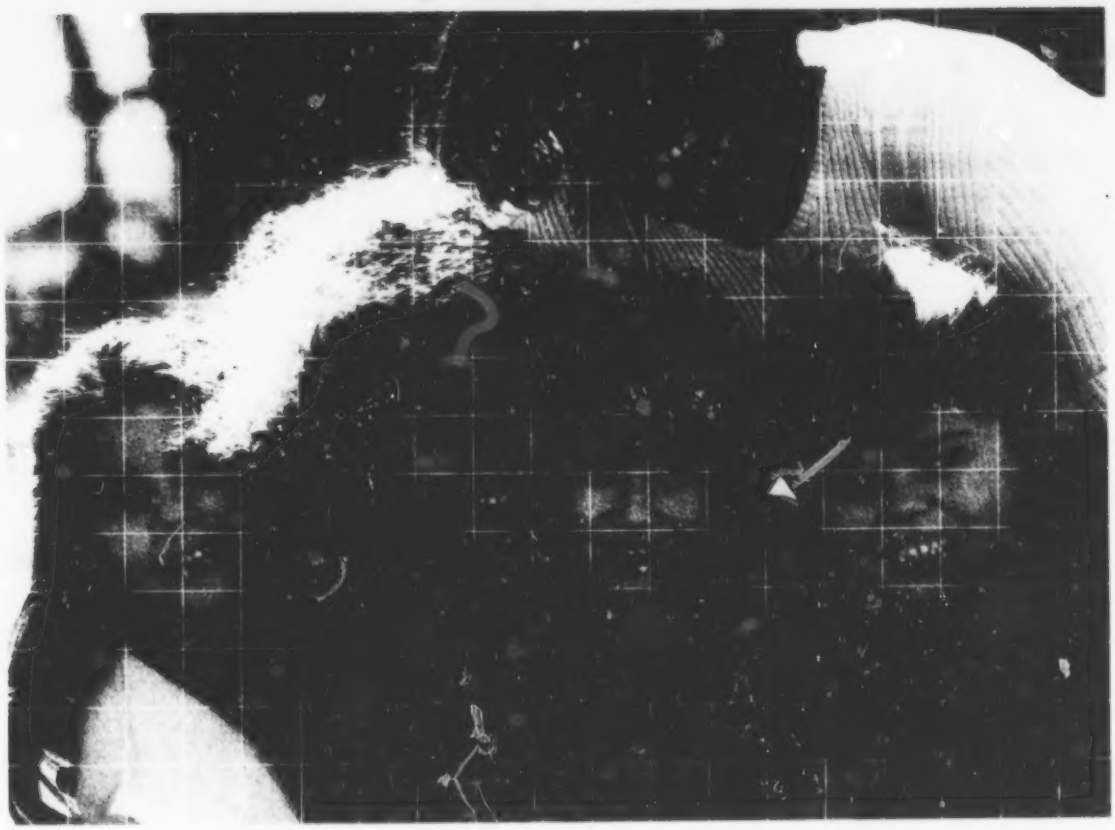
From informal conversations and from examining curricula, teachers realized that they were spending too much time reviewing and teaching basic math facts when students should have already been fluent by at least the middle of third grade.



Vance asserts, "Part of the problem was that we never got to the higher-level skills because we spent so much time on and reviewing basic facts." Each year the math scores reflected the pattern.

The Creve Coeur team's first move was to compact the math curriculum in pilot classes—at least the basic skills component. Pilot teachers began timing students indi idually (seeing how many problems they could correctly complete in a given time frame) and helping them set goals. The teachers used charts to plot where each child was and where he or she needed to be. Both teacher and student were able to see progress or stagnation by looking at data plotted on a chart. Eventually the students could do their own charts and see if they were accelerating, decelerating, or flatlining (not improving but not declining). "If we saw students flatlining or decelerating, then we'd have an intervention," points out Vance. "We'd talk about it, do another timing, and identify the facts that they hadn't mastered yet. Then we'd make flash cards and then send them home with the parents and say 'We're struggling with these, could you help at home?'"

Another promising aspect of Creve Coeur's work with data is "chart sharing." After working for a week or two, students put their compiled data on a chart transparency and present it to the class. According to Vance, "Students get a chance to show off their learning and get constructive feedback from their peers. I noticed that when we didn't do chart shares, some kids' scores really dropped off. They knew they weren't going to have to be responsible for it or have to share it with the class. As soon as I would announce that we're going to have a chart share, scores came up because it made them more accountable for their learning and work." Students weren't the only ones mulling over chart data. Teachers also had opportunities to share charts. Like the students, they met once a week to share information, get feedback, and offer advice.



In the fall of 2000, the six teachers who participated in the pilot will share their expertise with other first- through fourth-grade teachers. "The trick," says Peyton, "will be to take these precision teaching techniques—the charting, the sharing, the peer coaching, the timing, everything—and apply it and adapt it to other subjects. First we want to get a comfort level for our teachers including special ed classrooms…in terms of the basic math. We will be looking at other schools that have implemented these things successfully. Right now it's baby steps."

Peyton offers this advice: Gather much data quite frequently or it's not worth it. Then make sure that the data you are analyzing is the data that you need to be analyzing so that when you try to make decisions you know that you are basing them on the correct data. ●

Resources

Educational Leadership Journal, February 2000, "Creating Data-Driven Schools" by Penny Noyce, David Perda, and Rob Traver.

Data-Driven School Improvement by James H. Johnson, (1997), ERIC Clearinghouse on Educational Management, Eugene, OR, (ED401595). [Online]. Available http://www.ed.gov/databases/ERIC_Digests/ed401595.html

Educational Leadership. "What Do We Mean by Results?" Vol 57(5), 2000, Association for Supervision and Curriculum Development.

feature

Measuring Student Success

An interview with Mary McNabb, NCREL Senior Program Associate, Center for Teaching, Learning, and Curriculum

By Lenaya Raack

NCREL's Learning Point: ***How would you characterize data-driven decision making (D'M)?***

McNabb: Good teachers want to know how well their students are doing so they know what they need to teach. In that sense, data-driven decision making is not new. What is new is the demand for formative data, i.e., data that is gathered and analyzed frequently to monitor whether instruction is effective and whether students are learning. Stakeholders have access to that information and are able to immediately adjust strategies in ways that most benefit learners. While teachers, students, and parents look at and make decisions based on the formative data, district-level administrators may want to look at the broader picture and analyze data at a grade-wide, schoolwide, or district-wide level.

Many initial questions need to be addressed when setting up a D'M process. What kind of data are we using? What are we using it for? What do we need to know and why do we need to know it? And then after we study it, what are we going to do about the data results? Right now, high-stakes data flow from school administrators to the state-level policymakers. Teachers may have their own data sources from classroom assessments, quizzes, and tests that shape their classroom planning. But data collection does not

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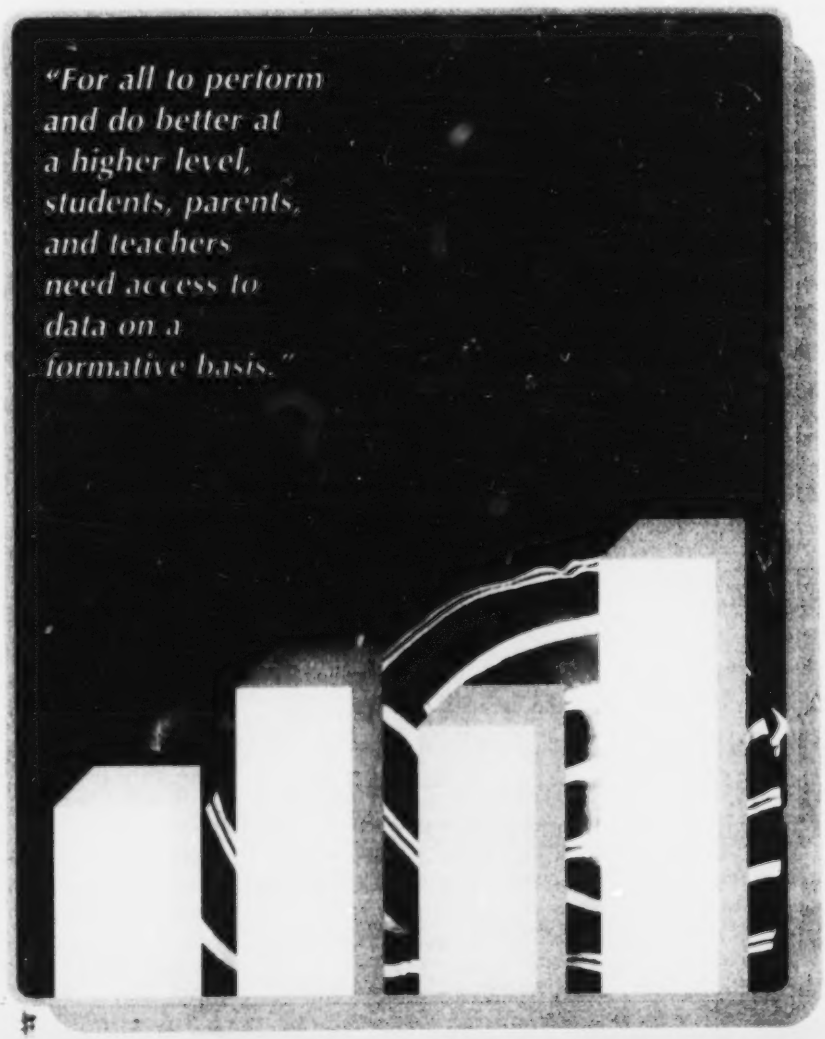
always lead to making sound educational decisions at all levels of the system.

Teachers, students, and parents all need to learn how to use D'M. If educators want to help students learn, then they need to give students and their parents access to continuous information on how they are doing. Such data can be aligned with standards of what students are expected to know and be able to do, so the learner and the parent can see what's happening, especially at critical data measurement points.

Tell us more about these measurement points.

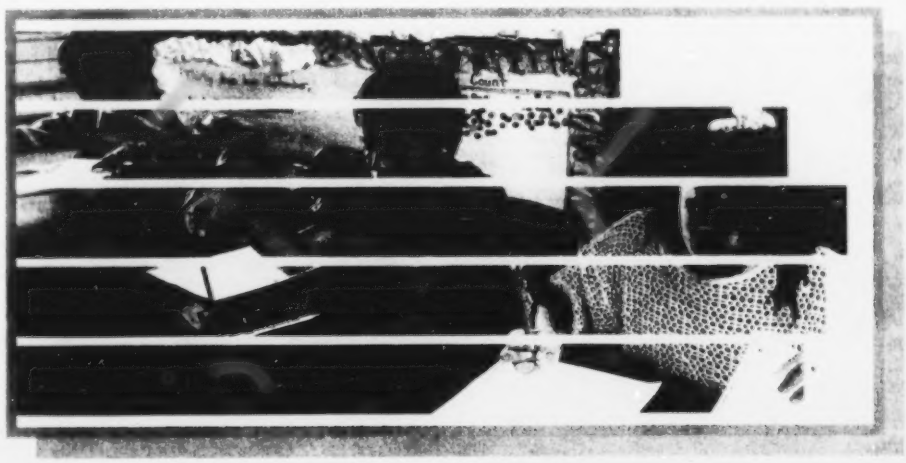
McNabb: Measurement points become the framework for data-driven decision making within a school system. To make changes to the data-flow process, schools and teachers need to identify new critical measurement points within their curriculum. Currently, there is one measurement point that has everyone's attention—state testing. As things now stand, parents, teachers, and students often get delayed feedback from that measurement point, which decreases the usefulness of the data for them. The goal behind D'M is to set up a continuous—and timely—feedback loop for those closest to the learning. Students, parents, and teachers should be able to tap into data to better understand students' strengths and weaknesses and where they will need to go next with their learning or for professional development planning.

Data-driven decision making can be a time-consuming process, so schools should avoid measuring unimportant data. A number of school case studies tell us that school staff tend to know what the critical measurement points should be, but are less sure about how to collect the data. They tend to have less knowledge on what to do with the data after they capture it. When schools understand the data and use it to make informed decisions, they then can take action that positively impacts student learning. Presently, accountability systems may not reward staff for collecting, analyzing, and applying data. So, implementing a D'M process is most successful when it is supported within the school system with professional development and changes to data flow processes.



How do schools decide on the measurement points?

McNabb: Educators should collaborate on setting up useful measurement points within content areas at each grade level. Effective measurement points would focus on the critical learning junctures. Collectively, educators can measure these critical junctures in formative ways. This is when technology really helps: It can capture and track data, manipulate it, and make it accessible for decision-making purposes.



To get started, schools can ask themselves: What are the developmentally critical content concepts? What are important access points for data? What are the policy concerns regarding who gets the data when? What are the data users' skills in analyzing, interpreting, and making decisions informed by the data? That is a good professional development focus for administrators and teachers. Once teachers understand how to use data, then they can teach their students and parents how to use it to enhance learning.

How do you make the data accessible to parents?

McNabb: These days, many teachers have e-mail and parents are using it to ask for more individualized information about their children; however, this can lead to overload. Schools are setting policies about how much teacher/parent communication is equitable and feasible for a given teacher. As an alternative, school communities are finding ways to use technology as a data tool for all. Some schools have set up an Intranet, an internal network within the school community, that parents can tap into and participate in their children's learning by accessing and responding to valuable data.

What misconceptions do teachers have about D³M?

McNabb: One misconception is that D³M is foreign. The reality is that many teachers do D³M on an informal basis. If it were more formalized and teachers had a well-designed technology system to support their D³M process, it could help them to access the data they need to make informed decisions about their professional practices. In addition to a D³M system, teachers benefit from professional development in assessment literacy that focuses on increasing their D³M competency.

How do you change people's negative mindsets?

McNabb: Within present-day school systems, data are often used for punitive purposes. A necessary part of D³M is having a data-friendly school culture. If data become a valuable tool for positively impacting learning and teaching practices, people are going to engage in the process. Implementing a D³M process involves a lot of up-front design work and technology investment as well. An indicator of a good D³M process is teachers, students, and parents tapping into data because it is useful and relevant, not because they have to record or report some data. ●

Mixing Fun With Data

How do your students' math and science skills stack up against those of students from 41 nations around the world? Find out by taking the TIMSS Online Challenge (http://timsschallenge.cse.ucla.edu/index01.html).

This fun, interactive site prompts your students to input their name, grade, and state and allows them to choose an animated sidekick that accompanies them through the test. Oops! They missed a question! Don't worry; the test gives them another chance to answer. After your students complete the Challenge, they can print a TIMSS Certificate of Merit. Also provided are math games that can be played online or downloaded to help students master key skills.

TIMSS Data at Work

Seventh and eighth graders representing more than 20 school districts in the Chicagoland area participated in the TIMSS assessment in 1996. Working with the data collected from the test results, these schools continue to strive to be the first in the world in math and science achievement.

To help them attain this goal, they banded together to form the First in the World Consortium. Data from TIMSS have helped to guide the work of the Consortium, and the group now focuses much of its attention on the issues of curriculum content, classroom instruction, teacher preparation, and student performance expectations.

Visit NCREL's Website (www.ncrel.org) and click on First in the World on the pull down menu for more information on the Consortium and its continuing efforts to be first in the world.

With data from a half-million students, the 1995-1996 Third International Mathematics and Science Study (TIMSS) is the largest, most comprehensive, and most rigorous international study ever conducted. Students from 41 nations were tested in 30 different languages at three different education levels to compare their mathematics and science achievement. Intensive studies of students, teachers, schools, curricula, instruction, and policy issues were also carried out to understand the educational context in which teaching and learning take place. In the United States, more than 33,000 students and 500 schools were included.

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NCREL NEWS &

North Central Regional Educational Laboratory

Pulling Together: Research and Development Resources for Rural Schools

The *Pulling Together* Web site offers an annotated list of products and services available for educators working in rural settings. You will find a wealth of information on publications, products, and services that address issues such as school effectiveness, curriculum, school and community partnerships, human resources, technology, and school finance and governance from a rural perspective. Resources are grouped and can be viewed by topic area or by geographic region. *Pulling Together* is a collaborative product of the national network of Regional Educational Laboratories.

www.ncrel.org/rural/

Send Mail: Beyond the Bell

To: Educators
Re: A Toolkit for Creating Effective After-School Programs

School-based programs provide an important educational setting for an increasing number of children. Creating successful programs requires hard work, clear focus, strong leadership, careful needs analysis, and effective decision making. Educators can now hammer out all the details of planning and implementing before-school, summer, and extended-day activities with a toolkit of practical strategies from NCREL.

Beyond the Bell: A Toolkit for Creating Effective After-School Programs demonstrates that when it comes to models for school-based programs, one size does not fit all. Each program must individually assess the needs of its students and community members. With the help of this toolkit, educators will learn to make informed decisions about critical issues such as management, collaboration, programming, evaluation, and communication. Discover how to build a strong school-based program today by downloading *Beyond the Bell* from **www.ncrel.org/after/bellkit.pdf** or ordering it from our online catalog at **www.ncrel.org/catalog**. *Free while supplies last!*

NOTES

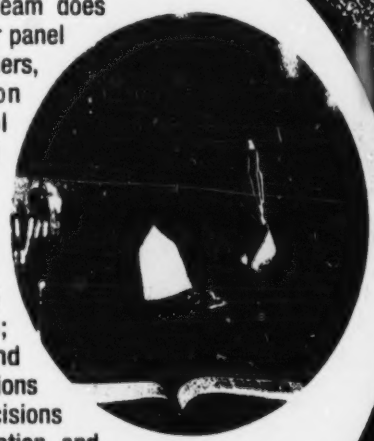
Your Ticket to Policy News

From Washington, D.C., to state and local government, find out the latest educational policy news with **NCREL's** ***Policy LINCletter***. The Spring 2000 issue features three new sections: Buzz Talk ("hot" topics in the region), Legislative Watch (legislative happenings in the region), and Snapshots (glimpses of legislation pending in the region's state legislatures).

View this issue of *LINCletter*, along with back issues, by visiting the Education Policy page on NCREL's Web site.

www.ncrel.org/policy/

Monitoring School Literacy



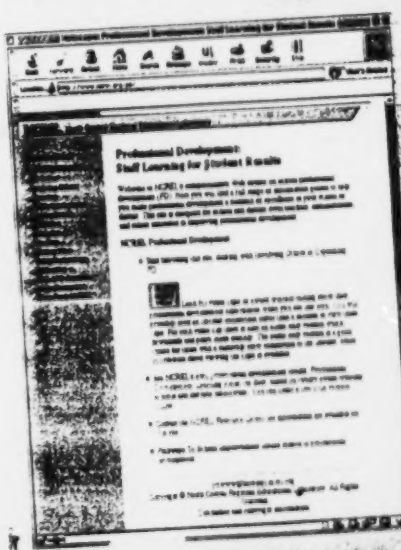
The Pathways team does it again. This time our panel of educators, researchers, and writers takes on "Monitoring the School Literacy Program" and offers examples of alternative assessments; advice on beginning the monitoring process; characteristics of literacy programs and literacy-rich classrooms; research on collecting and analyzing data; and questions about who makes decisions about literacy, information and processes, and external factors affecting children's learning. For more information visit:

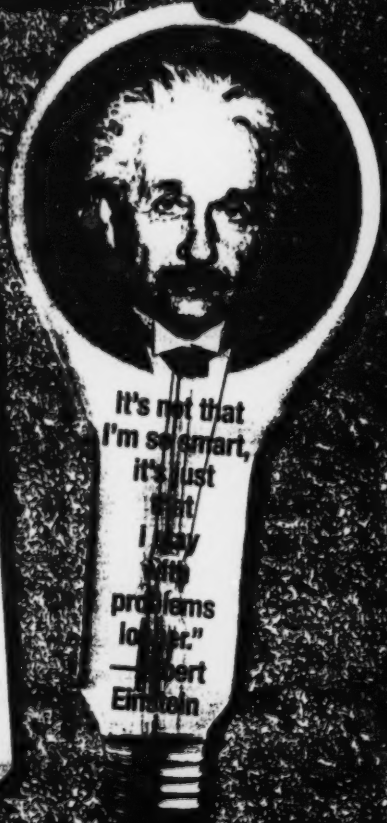
www.ncrel.org/sdrs/areas/issues/content/cntareas/reading/li700.htm

A Cool E-Tool: Professional Development Web Site

Visit NCREL's Professional Development Web site to view the book *Professional Development: Learning From the Best, A Toolkit for Schools and Districts Based on Model Professional Development Award Winners.* Also browse the site for other resources and research tailored for teachers, administrators, and others interested in improving professional development. Available at

www.ncrel.org/pd/





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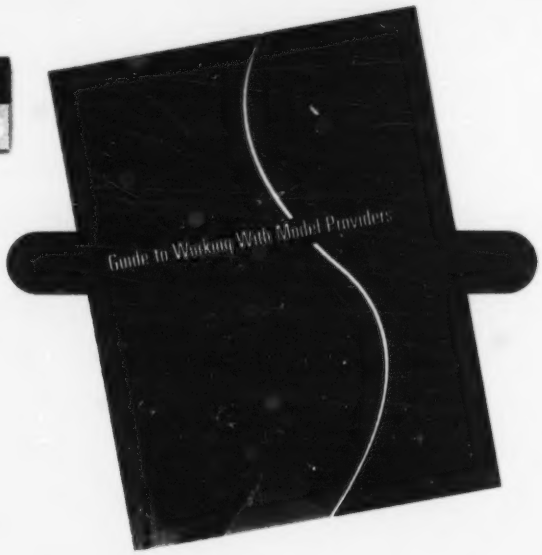

Guide to Working With Model Providers by Katie Walter and Bryan C. Hassel, Public Impact

Encompassing topics from curriculum and technology integration to parent involvement and professional development, comprehensive school reform (CSR) is exactly that—comprehensive. Around the country, CSR is being touted as the possible solution for failing schools and low student achievement. However, some schools and districts may feel out of the loop, not knowing where to begin or even what CSR entails. This guide focuses on one aspect of CSR, helping schools and districts forge partnerships with external developers of comprehensive school reform models.

The writers address how to negotiate an agreement with the model provider, work with the model provider over time to implement the model, and use evaluation to improve the model's effectiveness. The *Guide to Working With Model Providers* is divided into three sections: Establishing a Framework, Working as Partners, and Planning for the Future. Each section includes suggested resources, and the appendix features a set of tools that can be used as starting points for discussion.

Order No. SC-WMP-P00

Teacher Shortages in the Midwest: Current Trends and Future Issues by Debra Hare, Joe Nathan, and John Darland, Center for School Change, University of Minnesota, and Sabrina Laine, North Central Regional Educational Laboratory

According to the authors of *Teacher Shortages in the Midwest: Current Trends and Future Issues*, "the Midwest region has traditionally been a net exporter of an abundant crop of teachers.... However, times are changing. Recent studies indicate that...shortages already have begun to show up in certain teaching areas."

The authors discuss those shortages in certain curriculum areas and examine steps for attracting, training, and retaining teachers in those key areas throughout the Midwest. They compiled research findings from seven Midwestern states: Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin. The report includes the following sections: Teacher Shortages and Surpluses, Alternative Approaches to Training Teachers, Why Teachers Leave and How to Keep Them, Summary and Conclusions, and Recommendations. The writers also include appendices on methods, models, shortage areas, and reasons for leaving.

Order No. EP-TSM-P00

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Is Your School "Data Rich"?

How do you use data in your classroom, school, or district? Do you wait for the result of annual standardized tests to see how you compare to other schools? Do you use end-of-unit tests to gauge the effectiveness of your instruction? Or do you continually collect many kinds of data and use them to fine-tune your teaching every day?

Collecting, understanding, and then using data to make daily decisions empowers teachers to adjust their practices—almost continuously—to meet the specific needs of students. Similarly, schools that are "data rich" can make better-informed decisions, taking command of their own progress.

The checklist below describes some of the characteristics and practices that are common in data-rich schools. We encourage you to use this checklist to consider how data are used in *your* school.

At my school:

- ❑ Multiple sources of data are used to assess student achievement.
- ❑ Stakeholders throughout the system (e.g., administrators, teachers, parents, and students) are familiar with local tools and practices used to generate and evaluate student learning.
- ❑ A common language related to goals, data trends, and common interventions is spoken by students, teachers, administrators, and parents.
- ❑ Data about student learning and other important school goals are continuously collected, recorded, and visually displayed.
- ❑ Data are used to track student and school progress on important goals over time.
- ❑ Stakeholders throughout the system have access to data.
- ❑ Data are publicly displayed.
- ❑ Administrators, teachers, parents, and students receive data-based feedback regarding their advancement toward goals.
- ❑ Students, teachers, and administrators all get regular opportunities to review and reflect upon data.
- ❑ Decisions and professional judgments are consistent with what is known from relevant data.
- ❑ When the data suggest a need for change, adjustments (e.g., to the curriculum, to instruction, to school or classroom processes) are made to optimize student learning and school functioning.

North Central Regional Educational Laboratory

NCREL's LEARNING POINT

A publication of the North Central Regional Educational Laboratory

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NCREL's Learning Point is produced in cooperation with Ve Media, Inc. (847) 205-3012

GIVE YOURSELF A PAT ON THE BACK

Don't miss this opportunity to give yourself, your school, or your district a pat on the back for a job well done. That's right, we want to feature your D'M success stories in a future issue of *NCREL's Learning Point*.

What were your greatest obstacles? How did you overcome them? What innovative tips can you offer other readers? What is your secret to D'M success?

Send your success story to NCREL (Attention: Ann Kinder), 1900 Spring Road, Suite 300, Oak Brook, IL 60523-1480. Help pave the way to D'M success for other schools and districts by sharing your story today!

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